World Academy of Science, Engineering and Technology
International Journal of Agricultural and Biosystems Engineering
Vol:9, No:08, 2015

# The Effect of Salinity and Bentonite on the Hydrous Behaviors and Sodium Content of the Broad Bean Vicia faba var. Semilla violeta

**Authors :** T. Nouri, Y. H. A. Reguieg, A. Latigui, A. Ouaini

**Abstract :** Salinity is considered as the most important abiotic factor. It limits growth and productivity of plants and degrades agricultural soils and ecosystem in arid and semi arid area. The study was conducted on Vicia faba L.'Semilla violeta'. Sowing was realized in plastic pots containing sandy substrates of bentonite 0, 3, 5, 7, and 10% associated with abiotic stresses of salinity corresponding to doses of NaCl, MgCl2 and MgSO4 20, 40, and 60 mmol/l respectively. The purpose of this work is to study the combined effect of salinity and of bentonite on a plant commonly cultivated in Algeria the broad bean Vicia faba has through the chemical and hydrous parameter. The results show that the combined action of strong concentration salt (40 and 60 mmol/l) and of bentonite a reduction of the relative content water reveals, against an increase in the content of hydrous deficit and of sodium. The growth of broad bean is significant in the substrate amended to 5 % of bentonite.

**Keywords :** salinity, bentonite, Vicia faba L, sodium content, hydrous parameters
**Conference Title :** ICABBBE 2015 : International Conference on Agricultural, Biotechnology, Biological and Biosystems Engineering
**Conference Location :** Istanbul, Türkiye
**Conference Dates :** August 17-18, 2015

Open Science Index, Agricultural and Biosystems Engineering Vol:9, No:08, 2015 publications.waset.org/abstracts/31285/pdf